

S/065/62/CCC/006/005/007
E194/E436

High temperature properties ...

not more than 0.7% of the sample; from 3 to 10%, not more than 1.5% of the sample and for higher values of the residue, not more than 15% of the smaller result. It takes up to 15 minutes to determine the deposit forming tendencies of typical lubricants. This method has the advantage over the Conradson residue method that it is carried out at a definite temperature and so gives a better assessment of the high temperature properties of lubricants. There is no definite relationship between the carbon residue and the deposit forming tendency assessed by this method. Test results by the method are given for a number of oils. Detergent multi-functional and anti-oxidant additives usually increase the deposit forming tendencies though sometimes they may reduce them; particularly if detergent and anti-oxidant additives are used together. There are 5 figures and 2 tables.

Card 2/2

VOINOV, S.G.; KOSOY, L.F.; SHUMOV, M.M.; SHALIMOV, A.G.; CHEKHOMOV, O.M.;
ANDREYEV, T.B.; AFANAS'YEV, S.G.; KALINNIKOV, Ye.S.; Primali
uchastiye: KORNEYENKOV, A.N.; GURSKIY, G.V.; BOKSHITSKIY, Ya.M.;
PETROV, A.K.; MOKHIR, Ye.D.; KOLYASNIKOVA, R.I.; KHASIN, G.A.;
DANILIN, V.P.; PLEKHANOV, P.S.; MAZUN, A.I.; MARKIN, A.A.

Refining converter steel in the ladle with liquid synthetic slag.
Stal' 22 no.3:226-232 Mr '62. (MIRA 15:3)
(Steel—Metallurgy)

PAPOK, K.K.; DANILIN, V.P.

High temperature properties of lubricating oils. Khim.i
tekh.topl.i masel 7 no.6:54-58 Je '62. (MIRA 15:7)
(Lubrication and lubricants)

L 51480-65 EEO-2/EED-2/EEC(k)-2/EWG(v)/EWA(c)/EWT(d)/FSS-2 Pg-5/Pg-4/Pk-4/Pl-4/
Fr-4/Po-4/Pq-4 BC

AM5016216 BOOK EXPLOITATION

UR/

Danilin, Vassiliy Petrovich

54
8H

Gyroscopic instruments (Girokopicheskiye pribory). Moscow, "Vysshaya shkola", 1965. 538 p. illus., biblio. Errata slip printed on the last page. 10,000 copies printed.

TOPIC TAGS: gyro instrument, gyro horizon, gyro course indicator, gyrocompass, gyro stabilizer, gyro instrument design

PURPOSE AND COVERAGE: This textbook is intended for students specializing in instrument design in higher educational institutions. It may also be useful to engineers working in the field of gyro instruments and control systems. The author discusses the theory and design of the more important gyro instruments and systems. The author expresses his sincere thanks to the reviewers, Professor S. S. Tikhmenev (deceased), the faculty of Kazan Aviation University, and especially Docents V. V. Maksimov and S. S. Arutyunov, for valuable remarks made during the review of the manuscript, and to Professor G. O. Fridlander, who undertook the job of editing the book.

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Part Five. Elements of Gyro Instruments Design

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Bibliography -- 534

AVAILABLE: Library of Congress

SUB CODE: NG

SUBMITTED: 03Dec64

NO REF SOV: 035

OTHER: 002

Card 4/6 7/6

CHUDINOV, Pavel Grigor'yevich; DANILIN, V.S., inzhener, nauchnyy redaktor;
KAPLAN, M.Ya., redaktor; POL'KINA, Ye.A., tekhnicheskyy redaktor.

[My experience in erecting large buildings using large cement blocks]
Moi opyt montazha krupnoblochnykh zdaniy. Leningrad, Gos. izd-vo lit-
ry po stroitel'stvu i arkhitekture, 1954. 38 p. (MLRA 8:1)
(Building)

DANILIN, V.S., inzhener.

Prefabricated transportable office for work shift supervisors for
use in building houses made of large blocks. Rats. 1 izobr. predl.
v strei. no.130:17-18 '56. (MLRA 9:9)
(Building)

L 36728-65 EPF(c)/EPF(n)-2/EPR/EPA(s)-2/ENP(j)/EWT(l)/EWT(m)/EPA(bb)-2/ENQ(m)/
ENP(b)/T/EWA(l)/ENP(t) Pc-l/Pr-l/Ps-l/Pu-l RW/WW/DJ/GS

ACCESSION NR: AT5007900

S/0000/64/000/000/0063/0077

52
BT1

AUTHOR: Koryakin, Yu. I.; Loginov, A. A.; Danilin, V. S.; Chernyayev, V. A.

TITLE: Use of organic heat-transfer agents as a working medium in nuclear power plants

SOURCE: Moscow, Institut atomnoy energii. Issledovaniya po primeneniyu organicheskikh teplonositeley-zamedliteley v energeticheskikh reaktorakh (Research on the use of organic heat-transfer agents and moderators in power reactors). Moscow, Atomizdat, 1964, 63-77

TOPIC TAGS: organic cooled reactor, power reactor, thermal reactor, nuclear power plant, heat transfer agent, biphenyl, benzene

ABSTRACT: The use of organic substances as the working medium of a steam-power cycle, i.e., in single-loop nuclear power plants, was investigated, and an analysis of the thermodynamics is used to illustrate the advantages and peculiarities of biphenyl and benzene. It was found that benzene can be used in condensation circuits under super-critical parameters. The efficiency for benzene and biphenyl circuits was 38 - 39 and 31 - 32%, respectively. The use of biphenyl in the reactor and benzene in the steam-power cycle was also found to be efficient. A

Card 1/2

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ACCESSION NR: AT5007900

large heat exchange on the order of 40% was required to increase the thermal economy of the cycles using biphenyl and benzene. The authors conclude that the power of turbines with organic heat-transfer agents can be increased to 50 Mw by converting the double-flow design to a reduced number of turns and by increasing the pressure in the condenser. Orig. art. has: 9 figures.

ASSOCIATION: Institut atomnoy energii, Moscow (Institute of Atomic Energy)

SUBMITTED: 01Aug64

ENCL: 00

SUB CODE: NP

NO REF SOV: 000

OTHER: 000

Card 2/2

L 1330-66 EPA(s)-2/ENT(m)/EPF(c)/ENP(f)/EPF(n)-2/EIP(j)/I/ETC(m) MW/DU/RM
ACCESSION NR: AP5023766 UR/0089/65/019/003/0257/0261
621. 311.25

AUTHOR: Danilin, V. S.; Zakharov, I. I.; Loginov, A. A.; Chernyeyev, V. A.

TITLE: Some of the properties and the maximum power of diphenyl turbines for central heating plants

SOURCE: Atomnaya energiya, v. 19, no. 3, 1965, 257-261

TOPIC TAGS: turbine design, heat transfer fluid, atomic energy plant equipment

ABSTRACT: The authors examine some of the most important properties of diphenyl turbines for atomic heat and electric power plants of up to 50 Mw. It is shown that the limiting factor with regard to the maximum power of these turbines is not the strength, but the degree to which the flow section can be expanded. The fundamental gas-dynamic properties of diphenyl are also briefly discussed. Thermodynamic analysis shows that expansion of saturated diphenyl vapor is not accompanied by increased moisture content, as is the case with steam, but by relative superheating. Thus, the gas-dynamics of the flow in the flow section of the turbine are considerably improved so that diphenyl turbines should have high relative internal efficiencies (0.88-0.89). A comparison of experimental data shows that

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ACCESSION NR: AF50 3766

the specific volumetric flow of diphenyl vapor at the turbine discharge is greater than the flow for condensation turbines using steam. A method is proposed for estimating the maximum power of a central-heating turbine using diphenyl at various rotor speeds. The results show that a diphenyl turbine for a nuclear central-heating plant with a power of 20-50 Mw should have a low rotor speed (about 1000 rpm). The turbine should be of the double-flow type in a single housing. A single-rim regulating stage should be used with nozzle vapor distribution. The discharge diffuser should have a large flow cross section. From the standpoint of volumetric flow at the turbine discharge, the vacuum for a diphenyl turbine should not exceed 0.07 absolute atmosphere. These considerations also apply to other high-temperature organic heat transfer agents. Orig. art. has: 6 figures, 8 formulas. (15)

ASSOCIATION: none

SUBMITTED: 21Dec64

NO REF SOV: 006

ENCL: 00

OTHER: 000

SUB CODE: FR, IE

ATTACHMENTS: 4103

Card 2/2

DANILIN, V.T., kandidat veterinarnykh nauk.

Rapid method of silver impregnation of *Leptospira* in microscopic sections. Veterinariia 32 no.10:84 0 '55. (MLRA 8:12)

1. Leningradskiy veterinarnyy institut.
(STAINS AND STAINING (MICROSCOPY)) (*LEPTOSPIRA*)

USSR/Human and Animal Morphology. Methods and Techniques
of Study.

S

Abs Jour: Ref Zhur-Biol., No 15, 1958, 69535.

Author : Danilin, V.T.

Inst : _____

Title : Method of Impregnating Argyrophilic Fibers with
Silver, with Reduction of the Latter with Hydro-
quinone.

Orig Pub: Arkhiv Patologii, 1956, Vol. 18, No 2, 126.

Abstract: Frozen or paraffin slices were processed with
1.5-3 percent solution of silver nitrate at
56 degrees for three to five hours and then
washed in distilled water for five to ten minutes.
The silver was reduced with an 0.5-1 percent
solution of hydroquinone in 50 percent alcohol

Card : 1/2

USSR/Human and Animal Morphology. Methods and Techniques
of Study.

S

Abs Jour: Ref Zhur-Biol., No 15, 1958, 69535.

at room temperature for three hours. After this the
slices were washed, dehydrated and fixed. The method
gave good results for the impregnation of argyrophilic
fibers in various organs. -- Ye. V. Ryzhkov.

Card : 2/2

DANILIN, V.T. (Kursk)

Pathological anatomy of leptospirosis in dogs. Arkh.pat. no.3:
39-44 '62.

(MIRA 15:3)

1. Iz kafedry veterinarii Kurskogo sel'skokhozyaystvennogo instituta.
(LEPTOSPIROSIS)

MILITARY, U. S.

30000 Pchelovodstvo Leningradskoy Obl. Pchelovodstvo, 1, 11, 11, 11.

1: Leningradskoy Obl. Pchelovodstvo, 1, 11, 11, 11.

DANILIN, Ye., kand. tekhn. nauk

Soviet pennant to the moon. Voen. znan. 35 no.10:9-10 0 '59.
(Lunar probes) (MIRA 12:12)

DANILIN, Ye.L.; USTINOV, Ye.P.

Using radiometric methods in prospecting for deposits of nonradio-
active elements. Sbor. st. MGION no.1:77-92 '62. (MIRA 16:3)
(Radioactive prospecting)

CA

107

Penetration of wood by tetraethyl lead. S. V. Svyat-
sillo and A. P. Danilina. *Doklady Akad. Nauk* 1951, No. 1,
40-50. Et,Pb penetrates rather rapidly into the surface
layers of lumber but prolonged exposure does not appear to
cause penetration beyond 0.5 cm if applied perpendicular-
ly to the wood grain fibers. Application along the grain
gives 8-10 times deeper penetration. Similar penetration
is achieved by the vapor, especially at elevated temp. Im-
mersion of lumber samples into the fluid may cause as much
as 48% by wt. retention after 48 hr. exposure. A 10-day
exposure to normal outdoor conditions serves to remove the
Et,Pb that is retained by previous applications, but only
from the vapor state. Liquid treatment causes greater re-
tention and complete "aeration" is impossible. Treatment
with steam at 100° is effective only after 4-5 hr. treatment.
G. M. Kozlovskii.

BUDANOVA, V.P.; DANILINA, A.I.; KARZHEVA, S.A.

Norms for weight and density deviations in manufacturing
woolen fabrics. Standartizatsiia 27 no.2:48-50 F '63,
(MIRA 16:4)
(Woolen and worsted manufacture—Standards)

EKHISKELASHVILI, G.I., mladshiy nauchnyy sotrudnik; DANILINA, A.I.,
mladshiy nauchnyy sotrudnik; FRENKEL', I.B.

Manufacture of woolen scarves with the admixture of rabbit
hair. Tekst. prom. 22 no.7:17-19 Sl '62. (MIRA 17:1)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sherstyanoy
promyshlennosti (for Ekhiskelashvili, Danilina). 2. Glavnyy
inzh. Dunayevskoy sukonnoy fabriki imeni V.I. Lenina (for
Frenkel').

DANILINA, A.H.

Embryology of *Lathyrus annuus* L. Nauch. dokl. vys. shkoly; biol.
nauki no.4:108-113 '59. (MIRA 12:12)

1. Rekomendovana kafedroy vysshikh rasteniy Moskovskogo gosudarstvennogo
universiteta im. M.V. Lomonosova.
(Vetchling) (Botany--Embryology)

DELONE, N.L.; DANILINA, A.N.

Cytochemical properties of the interphase cell nuclei with
different physiological functions. Dokl. AN SSSR 151 no.5:
1195-1197 Ag '63. (MIRA 16:9)

1. Predstavleno akademikom A.N.Belozerskim.
(CELL NUCLEI)

DANILINA, A.N.; LUSS, Ye.V.; BUTENKO, R.G.

Dedifferentiation of specialized carrot cells and the characteristics of callus growth. Fiziol. rast. 12 no.3:469-478
My-Je '65. (MIRA 18:10)

1. Institut atomnoy energii imeni I.V. Kurchatova i Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva.

GLUSHKOVA, M. I.; DANILINA, A. P.

Main features of the relief of the southwestern slopes of
the Fergana Range. Izv. AN Kir. SSR. Ser. est. i tekhn.
nauk 2 no.10:49-60 '60. (MIRA 17:3)

1. The first part of the document is a list of names and titles of individuals who were involved in the project. The names are listed in alphabetical order.

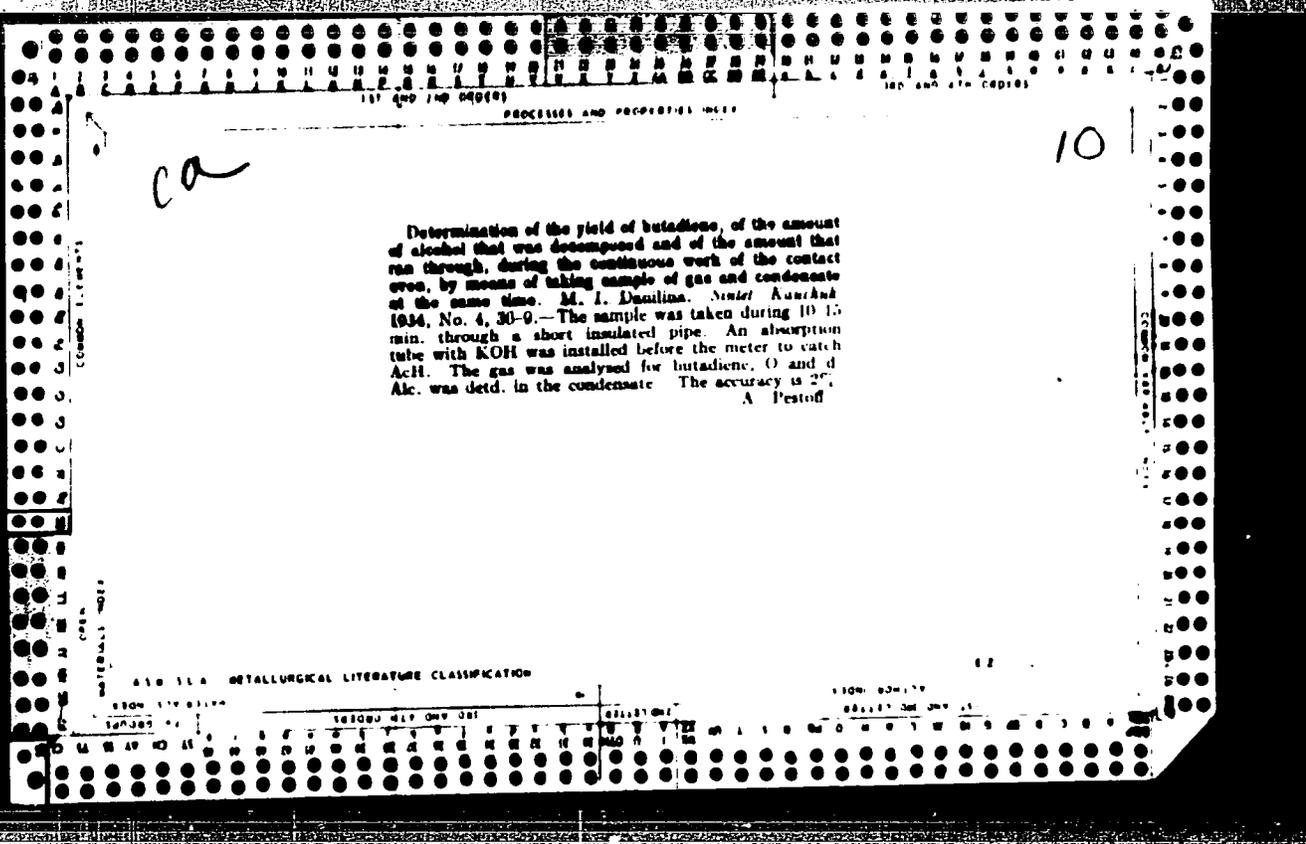
2. The second part of the document is a list of dates and times when the individuals were present at the project. The dates are listed in chronological order.

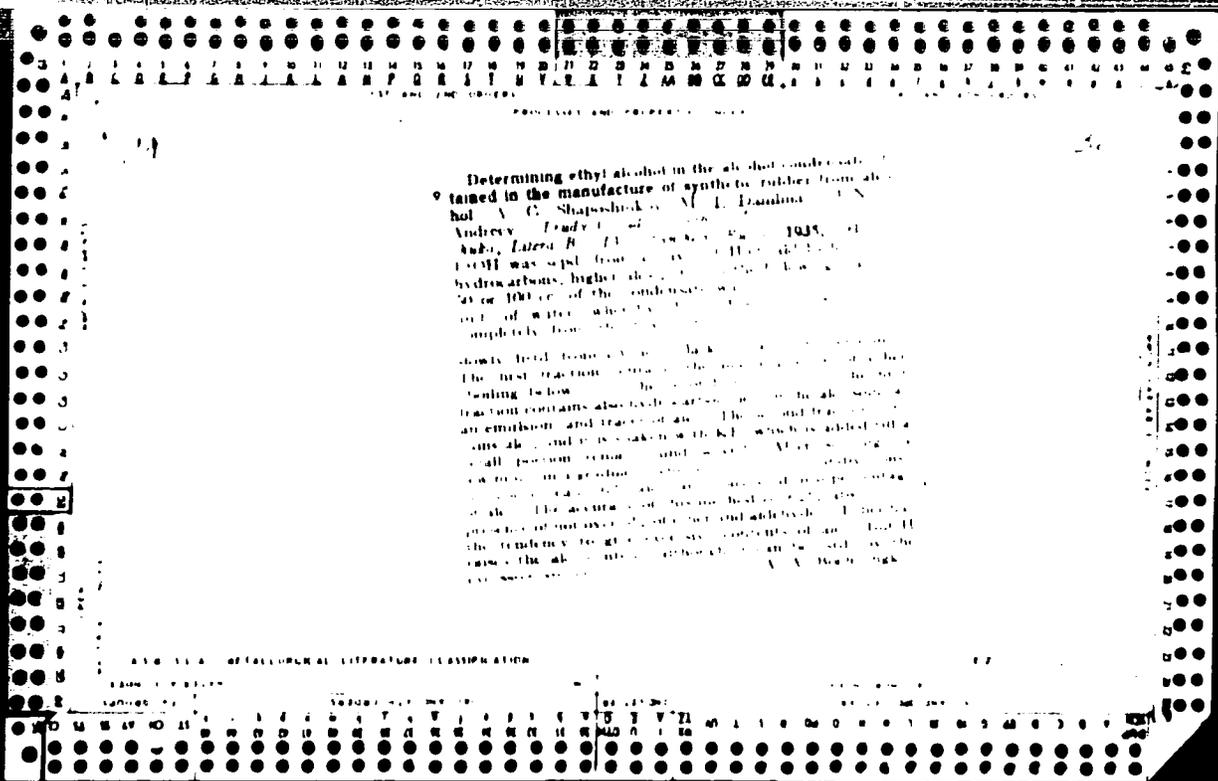
3. The third part of the document is a list of locations where the individuals were present at the project. The locations are listed in alphabetical order.

KLOTS, P., inzh. (Perm'); FEDOTOV, P., deputat gorodskogo Soveta (Rybinsk, Yaroslavskoy obl.); DANILINA, K.; CHERNOV, M.

Accounts of progressive practices in house committees. Zhil.-kom.-
khoz. 12 no.7:10-11 J1 '62. (MIRA 16:5)

1. Zaveduyushchaya detskim sektorom obshchestvennogo domovogo
komiteta domoupravleniya No.2, g. Artemovsk, Donetskoy obl.
(for Danilina). 2. Glavnyy inzh. shilishchno-ekspluatatsionnoy
kontory No.17 Leningradskogo rayona Moskvy (for Chernov).
(Apartment houses)





$C_{10}H_{16}$, and, by hydrogenation over Pt black, by addn of maleic anhydride, and by oxidation with $KMnO_4$, was identified as $Me_2C=CHCH=CH_2$. In the fractions b 70.3°, 73-8°, and 76.1-7°, the contents of the diethylene hydrocarbons were 08.9, 77.5, and 85.4%, resp., of ethylenic hydrocarbons, 31.1, 22.5, and 14.6%, resp. The total content of dienes $C_{10}H_{16}$ was 83.7 g, i.e. a yield of 5% with respect to AcH reacted. (2) The reaction scheme is $Me_2C=CHCH_2OH \rightarrow 2H + Me_2C=CHCHO$, or $Me_2C=CHCH_2OH + AcH \rightarrow EtOH + Me_2C=CHCHO$. $Me_2C=CHCHO + AcH \rightarrow [Me_2C=CH(OH)CH_2CHO] \rightarrow H_2O + Me_2C=CHCH_2CHO$; $Me_2C=CHCH_2CHO + 2H \rightarrow Me_2C=CHCH_2CH_2OH$; $Me_2C=CHCH_2CH_2OH \rightarrow H_2O + Me_2C=CHCH=CH_2$. N. Thom

1947/4/13

USSR/Chemistry - Alcohols
Chemistry - Catalysis

Jun 48

"Studies in the field of Catalytic Conversion of Alcohols into Divinyl Series Hydrocarbons," Yu. A. Gorin, M. I. Danilina, M. P. Andreyev, All-Union Sci Res Inst Chem Acad N. P. Andreyev, 7 1/2 pp

"Zhur Obshch Khim" Vol XVIII (LXXIX), No 6

Series, 12th article. Investigates reaction of a 2:1 mixture of ethyl alcohol and methylethylketone on S. V. Lebedev's modified catalyst. Shows that diethylene and ethylene hydrocarbons with six

9/49213

USSR/Chemistry - Alcohols (USSR)

JUN 48

carbon atoms are formed. The diethylene hydrocarbon has a conjugate system and is hexadiene-2,4. The ethylene hydrocarbon is hexene-2. Pseudobutylene and insoluble condensation products are also formed. Suggests scheme of formation of piperylene-2,4 based on principles of formation of piperylene from a mixture of alcohol and acetone. Submitted 9 Apr 1947.

9/49213

AUTHOR: Danilina, O. B.

S.V. 82-11-7-26-5

TITLE: The Microstructure Development of Ferrites (The Final Microstructure, Ferritov)

PERIODICAL: Zhurnal Laboratoriya, Vol. 1, No. 1, p. 840 (USSR)

ABSTRACT: A method for the development of the microstructure was worked out directly on the finished products without necessitating their being destroyed. A punch or matrix is used in the production of the finished product, which has a carefully polished front surface. Thus a specular surface is obtained on the finished product. The quality of the polished surface of the punch must correspond to that of a metallographic polished section. On this surface the crystalline structure of the piece appears during the technological annealing without etching. The grain size, the nature of the grain boundaries, the intercrystalline layers, the stratification within the grain, the lines of crystal growth, and partly the porosity become well visible. This is shown in some figures given as examples. This distinct appearance of the

Card 1 2

The Microstructure Development of Ferrites

83 73-11-7 26 65

microstructure on the surface of ferrite films is explained by transfer of energy from the surface stress under simultaneous yield changes. The crystals destroy the smooth surface by their presence. This method of determination permits to establish the relation between the structure and the properties of ferrite with continuous control of film of a certain thickness. This is a preliminary.

Card 2, 2

L 13607-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(a)/EWP(b)/EWA(c) JD/EM
ACC NR: AP6002870 SOURCE CODE: UR/0286/65/000/024/0032/0032

INVENTOR: Danilina, G. B.; Fomin, A. P.; Natapov, S. L.; Romodina, L. I.; Yermolovich, L. F.

ORG: none

TITLE: Method of heat treatment of austenitic-ferritic steel welds.
Class 18, No. 176945. *375*

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 32

TOPIC TAGS: weld, heat treatment, weld heat treatment, steel, steel weld, austenitic ferritic steel

ABSTRACT: This Author Certificate introduces a method of annealing age-hardenable austenitic-ferritic steel welds strengthened by aging. To obtain welded joints with a ductility and strength equal to those of the parent metal, the weldments are annealed prior to aging at a temperature which ensures an optimal ferrite-to-austenite ratio (about 1:1) and water quenched or air cooled. *ND*

SUB CODE: 11/ SUBM DATE: 24Jul64/ ATD PRESS: 4187

Card 1/1

UDC: 621.785.371;
:621.785.78

ACC NR: AT7004006

SOURCE CODE: UR/0000/66/000/000/0298/0302

AUTHOR: Danilina, T. I.; Okulov, B. V.

ORG: none

TITLE: Fabrication of pressed Ba-Ni cathodes and results of testing them in dismantable vacuum systems

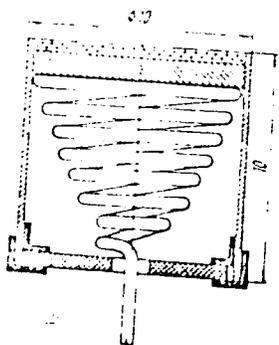
SOURCE: Mezhvuzovskaya konferentsiya po elektronnyim uskoritelyam. 5th, TorÅsk, 1964. Elektronnyye uskoriteli (Electron accelerators), trudy konferentsii. Moscow, Atomizdat, 1966, 298-302

TOPIC TAGS: electron tube cathode, ~~Ba-Ni~~ cathode, electron accelerator, *vacuum, nickel*

ABSTRACT: Disk-type heater cathodes (see figure) were fabricated and tested in Ni, TPI. An emission pellet was mounted in a 0.15-0.2-mm Ni cup on top of a 0.35-mm W heating spiral. The pellet consisted of 0.4-0.5-mm active layer and a 1-mm Ni backing. Active-material composition: (1) 29% (Ba, Sr) CO₃, 1% Al, 70% Ni powder; (2) 30% (Ba, Sr, Ca) CO₃, 70% Ni powder. The above cathodes

Card 1/2

ACC NR: AT7004006



were tested: (a) in a 5×10^{-6} -torr vacuum system without freezing diffusion-oil vapor and (b) in a $(2-5) \times 10^{-7}$ -torr electron gun exhausted by a titanium pump. It was found that: (1) Under "b" vacuum conditions, the cathodes operated for hundreds of hours at 5 amp/cm^2 or higher densities; (2) Under "a" vacuum conditions, the cathodes were also operable; however, their life and emission were considerably lower. Orig. art. has: 4 figures.

SUB CODE: 09 / SUBM DATE: 06Mar66 / ORIG REF: 004

Card 2/2

AUTHOR: Gavrilina, V.I., head of the Planning and Finance Department 7-111-50-111170

TITLE: Experiences of the Gor'kiy Oblast Communications Board Since Functioning as a Self-Supporting Body (ot raboty Gor'kovskogo oblastnogo upravleniya svyazi na khozgospodvennom raschete,

PERIODICAL: Vestnik svyazi, 1956, No 2, pp 16 - 17, 1956

ABSTRACT: The Gor'kiy Oblast Communications Board and its allied enterprises began functioning as self-supporting units from the 1st January, 1956, adopting the system of cost-accounting. The author discusses the problems involved in the change-over and the benefits which it has brought. He points out that there is no one to control the activity of all the various branches and enterprises as a whole.

ASSOCIATION: Gor'kovskoye obl. stro. e. upravleniye svyazi (Gor'kiy Oblast Communications Board)

1. Communication systems--USSR

Card 1/1

SHAPIRO, A. A. DANILINA, V. S. FROLOVA, A. G., ENGS

Cementation

Speeding up case hardening with solid carburizing agents of agricultural machinery parts made of 18KhGt and 20Kh steel. Sel'khoz mashina No. 9, 1952.

Monthly List of Russian Accessions. Library of Congress, December 1952 UNCLASSIFIED

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001109

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001109

ТОЛМАЧОВ, Александр Федорович. Инженер. Москва. 1965.
САЛИ-ХАЙЕВ, В.Н., инж. МПИИИ. Москва. 1965.
СЕРГЕЕВА, А.И., ред. МПИИИ. Москва. 1965.

[Electric ballastors] Электрические балласты. Москва: Транспорт,
1965. 131 p. МПИИИ 18 3

DANILINA, Ye.G.; YEVGRAFOVA, G.A.

"Geography and the economy." Collection 7, 1960. Reviewed by
E.G.Danilina, G.A.Evgrafova. Vop. geog. no.54:154-156 '61.

(Agriculture)

(MIRA 15:3)

DANILINA, Ye.V., inzh.; MINAYEVA, K.I., inzh.

Experimental data on the operations of a reagent-free fat
splitting unit. Masl.-shir.prom. 26 no.1:27-28 Ja '60.
(MIRA 13:4)

1. Ferganskiy masloshirovoy kombinat.
(Fergana--Oils and fats) (Glycerol)

DANILINA, Z. A., Cand of Med Sci -- (diss) " Clinic of the disease
Shenleyn-Genokha in children." Moscow, 1957, 16 pp (1st Moscow Medical
Institute im Stalin) 200 copies (KL, 32-57, 97)

DANILINA, A.A.; KURBATOVA, M.D.; DUBITS'YEVA, N.G.

radiographic changes in the small intestine in Schonlein-Henoch
disease. *Pediatrics* no. 5 94 1974
(MIRA 10:10)

1. Iz detskoy kliniki I Moskovskogo ordena Lenina meditsinskogo
instituta imeni I.M. Sechenova (dir. - kandydat meditsinskoy nauki
prof. Yu.F. Dombrovskaya)
(PURPURA (PATHOLOGY)) (INTESTINES--RADIOGRAPHY)

KULYABKO, O.M.; DANILINA, Z.A.

Blood histamine content in purpura in children. *Pediatrics* 37
no.7:31-35 J1 '59. (MIRA 12:10)

1. Iz laboratorii patofiziologii (zav. - prof.N.M.Nikolayev)
Instituta pediatrii AMN SSSR (dir. - chlen-korrespondent AMN
SSSR prof.O.D.Sokolova-Ponomareva) i kafedry detskikh bolezney
(zav. - deystvitel'nyy chlen AMN SSSR prof.Yu.F.Dombrovskaya)
I Moskovskogo meditsinskogo instituta imeni I.M.Sechenova.
(PURPURA, NONTHROMBOPENIC, in inf. & child,
blood histamine (Rus))
(HISTAMINE, in blood,
in nonthrombopenic purpura in child. (Rus))

DANILINA, Z.A.

Pathogenesis of gastrointestinal disturbances in children with
Schonlein-Henoch's disease. Vop. okh. mat. i det. 5 no.6:24-29
N-D '60. (MIRA 13:12)

1. Iz kafedry detskikh bolezney (zav. - deystvitel'nyy chlen AMN SSSR
prof. Yu.F.Dombrovskaya) i Moskovskogo ordena Lenina meditsinskogo
instituta imeni I.M.Sechenova.

(DIGESTIVE ORGANS—DISEASES)

(PURPURA (PATHOLOGY))

DANILINA, Z.A.

Renal syndrome in Schoenlein-Henoch disease (capillary toxicosis).
Klin.med. 38 no.1:81-85 Ja '60. (MIRA 13:10)
(PURPURAL (PATHOLOGY)) (KIDNEYS—DISEASES)

BAYANDINA, S.A.; DANILINA, Z.A.

Candidomycoses in children. *Pediatrics* 38 no. 3:32-37 Mar '60.

(MONILLIASIS)

(MIRA 14:1)

DANILINA, Zoya Aleksandrovna; SARYLOVA, K.P., red.; FOGOSKINA, M.V., tekhn.
red.

[Clinical aspects and treatment of capillary toxicosis in children]
Klinika i lechenie kapillarotoksikoza u detei. Moskva, Gos. izd-
vo med. lit-ry, Medgiz, 1961. 137 p. (MIRA 14:9)
(PURPURA (PATHOLOGY))

DANILINA, Z.A., kand.med.nauk (Moskva)

Capillary toxicosis (Schönlein-Henoch's disease) in children.
Fel'd. i akush. 26 no.10:31-35 O '61. (MIRA 14:11)
(PURPURA) (CHILDREN--DISEASES)

GUSEYNOV, Ch.S.; CHERNOV, G.A.; LAGUTINA, N.Ya.; BIRYUZOVA, V.I.;
DANILINA, Z.A.

Some problems in the mechanism of hemorrhage in thrombasthenia.

Pediatrics 39 no.2:3-8 P '61.

(MIRA 14:2)

1. Iz Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi Ministerstva zdravookhraneniya SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Bagdasarov) i detskoy kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. Yu.F. Dombrovskaya) I Moskovskogo meditsinskogo instituta imeni I.M. Sechenova.

(HEMOPHILIA)

SHTUL'MAN, D. R.; DANILINA, Z. A.

Clinical aspects and pathogenesis of angioneurotic edema of the orbit. *Pediatrics* no.6:61-65 '62. (MIRA 15:6)

1. Is kliniki detskikh bolezney (zav. - prof. Yu. F. Dombrovskaya) i kliniki pervnykh bolezney (zav. - prof. V. V. Mikheyev) I Moskovskogo meditsinskogo instituta.

(ANGIONEUROTIC EDEMA) (ORBIT(EYE)-DISEASES)
(POLIOMYELITIS VACCINE)

15 3000 (1142)

12.3000

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S, 152161, 000 101 015, 007
B023/B024

AUTHORS: Lipovetskiy, A. Ya., Leyrikh, V. E., Danyushevskiy, V. S.,
Danilina, Z. N.

TITLE: Effect of certain admixtures upon the corrosion stability of
plugging cements in the waters occurring below the petroleum
layer of Bashkiriya

PERIODICAL: Izvestiya vysshikh uchebnykh zavodov Neft' i gaz, no 1,
1961, 95-98

TEXT: In the previous paper (Ref. 1) the authors found that the corro-
sion stability to such aggressive media as the waters occurring below the
petroleum layer of Bashkiriya is essentially increased by increasing the
impermeability of solid cement. Admixtures of calcium- and sodium chlorides
and of furyl alcohol were introduced for this purpose into the cement
solution. The admixture of 12-15 g CaCl_2 and 5 g NaCl per 100 g of water
leads to the formation of a cement with dense structure and a permeability
which is a hundred times lower than that of ordinary cement. The hydro-
chloric acid used in the investigations was, with respect to its composi-
Card 1/4

88833

Effect of certain admixtures.

S/152161/000, 001, 005, 007
B023 RC61

X

tion, very similar to the effluents of the Sterlitamakskiy soda-
 tsementnyy kombinat (Sterlitamak Soda-cement kombinat). Thus, it is pos-
 sible to use these effluents or their concentrate for mixing the cement.
 The other admixture, furyl alcohol, is introduced together with hydro-
 chloric acid aniline. It is assumed that this admixture leads to a closing
 of the pores and capillaries of the cement, this entailing a considerable
 reduction of permeability. By admixing a 10% aqueous furyl alcohol solu-
 tion with 10% (referred to furyl alcohol) hydrochloric acid aniline,
 permeability is reduced by 50%. The admixture of furyl alcohol increases
 the cracking stability of the cement. Nevertheless, a diffusion of ag-
 gressive components from the medium into the cement is possible in spite
 of the protective measures described. The authors therefore investigated
 the effect of admixtures upon the corrosion stability of the cement in-
 dependent of the increase of its impermeability. The chemical properties
 of the admixtures indicated the presence of such an effect. The micro-
 scopic examinations, which Professor V. V. Lapin made on the specimens
 prepared by the authors, showed that the cement to which furyl alcohol
 has been admixed contains no portlandite (Ca(OH)_2). The authors assume
 that calcium hydroxide is bound by furyl alcohol, which increases the

Card 2/4

88833

Effect of certain admixtures...

3, 152/61/000/001/005/007
BC63; BC64

rosion stability. The corrosion stability was investigated on porous samples by the method of V. V. Kind (Ref. 4). Cements of the Sterlitamak plant and the "Komsomolets" plant (at Vol'sk) were studied, i.e., in Devonian and Arti-waters occurring below the petroleum layer as well as in synthetic solutions which contained the chief components of such waters. A previous paper mentioned the chemical characteristics of the cements studied and the composition of the aggressive media. The following results were obtained in the studies described here: The introduction of certain amounts of calcium- and sodium chlorides into the cement solution yields, after hardening, a cement that is completely stable to all media investigated. When the cement was stored in Arti- and Devonian natural waters, the stability coefficient of the sample with this admixture remained between 0.94 and 1.09, while in samples without admixture it was only 0.46-0.61. The addition of furyl alcohol considerably increases the stability of cement. Thus, the stability coefficients of Sterlitamak samples, after having been stored for one year in the mentioned natural waters, were by 20-30% higher than in samples without an admixture of furyl alcohol. In the authors' opinion, the chief effect of the admixture is, however, the fact that, as a result of an admixture, a high imper-

X

Card 3/4

Effect of certain admixtures..

88833

3, 15, 61, 000, 001, 005, 007
BC23, RC64

meability occurs in cement, which is lacking in per se samples. There
are 2 tables and 3 Soviet-bloc references

X

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti im. akad I M Gubkina (Moscow Institute
of the Petrochemical and Gas Industry (men: Academician
I. M. Gubkin)

SUBMITTED: May 21, 1960

Card 4/4

DANILISHEV, S., inzh.

First steamships on the rivers of the Ural Mountain region. Rech.
transp. 22 no.11:53 N '63. (MIRA 16:12)

MANUCA, Ovidiu; DANILIUC, Dorin

Mobilization of some difficulty soluble in some acid soils. Comunicarile AR 11 no.8:987-992 '61.

1. Comunicare prezentata de Gr. Obrejanu, membru corespondent al Academiei R.P.R.

ALEXIU, I., ing.; BALANESCU, C., ing.; CATUNEANU, V., ing. candidat in stiinte
tehnice; DANILIU, N., ing.; RUSU, N., ing.

Elementary commutation circuits with magnetic cores. Telecommunicatii
7 no.1:12-18 Ja-F '63.

CATUNEANU, V., ing.; ALEXIU, I., ing.; DANILIUC, N., ing.; BALANESCU, C., ing.

Signaling devices with semiconductors for automatic telephone exchanges for institutional use. Telecomunicatii 7 no.2:69-74 Mr-Ap '63.

SIROTA, N.N.; DANIL'KEVICH, M.I.; SIROTA, A.G.; SHIMANSKAYA, V.P.

Electrets made from high polymers. Dokl. AN BSSR 2 no.10:413-
415 N '58. (MIRA 12:8)

(Electrets)

ACCESSION NR: AP4020379

S/0250/64/008/002/0087/0089

AUTHORS: Danil'kevich, M. I.; Sirota, N. N.

TITLE: Electrical resistivity and the activation energy of nickel manganese zinc ferrites

SOURCE: AN BSSR. Doklady*, v. 8, no. 2, 1964, 87-89

TOPIC TAGS: electric conductivity, electric resistivity, ferrite, activation energy

ABSTRACT: The authors have studied the system $\text{NiFe}_2\text{O}_4 - \text{MnFe}_2\text{O}_4 - \text{ZnFe}_2\text{O}_4$ to determine the resistivity and activation energy in relation to composition and temperature. The samples were prepared from oxide powders and MnCO_3 by ordinary ceramic techniques. Resistivity was measured by the compensation method on cylindrical samples 20-30 mm long and about 8.5 mm in diameter in the temperature interval from 40 to 100C. Heating was maintained at each temperature for about 30 minutes. The activation energy was determined graphically by measuring the log of the resistivity in relation to the temperature, $1/T$. The highest resistivity, about

Card

1/2

ACCESSION NR: AP4020379

$6 \cdot 10^7$ ohm cm, was measured in a ferrite containing about 50% Mn ferrite and 20% Zn ferrite. The least resistivity, about 10^3 ohm cm, was measured in a ferrite with about 10-20% Mn ferrite and about 30% Zn ferrite. Approximately the same compositions correspond to the highest (~ 0.5 ev) and the lowest (~ 0.18 ev) values of activation energy. The activation energy increases with resistivity in this system. No strict linear relation could be determined, but for practical purposes the two may be considered directly proportional. The log of the resistivity increases linearly with increase in $1/T$ for all samples. Orig. art. has: 2 figures.

ASSOCIATION: Institut fiziki tverdogo tela i poluprovodnikov AN BSSR (Institute of Solid State and Semiconductor Physics AN BSSR)

SUBMITTED: 01Aug63

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: SS

NO REF SOV: 002

OTHER: 002

Card
1 2/2

ACCESSION NR: AP4042724

S/0250/64/008/006/0369/0371

AUTHOR: Danil'kevich, M. I.; Sirota, N. N.

TITLE: Dielectric permeability and conductivity activation energy of nickel-manganese-zinc ferrites

SOURCE: AN BSSR. Doklady*, v. 8, no. 6, 1964, 369-371

TOPIC TAGS: ferrite, nickel manganese zinc ferrite, semiconductor, dielectric permeability, electrical conductivity, conductivity activation energy

ABSTRACT: Disk-shaped samples of $\text{NiFe}_{204} - \text{MnFe}_{204} - \text{ZnFe}_{204}$, 3.5-4.5 mm thick and 21 mm in diameter, with a constant manganese ferrite content of 20 wt. %, were used in a study of the relationship between electrical permeability, specific electrical resistance and temperature in ferrites. The dielectric permeability and the tangent of the angle of loss were determined at a frequency of 10^8 cps with the use of a Q-meter. The actual and apparent dielectric permeability were found from the total permeability and the tangent. The activation energy of the ferrite systems was graphed against the square of the reciprocal of the dielectric permeability, a straight line relationship was obtained with a slope of about 46 ± 2 eV. The relationship between activation energy and zinc ferrite

Card 1/3

ACCESSION NR: AP4042724

content is shown in Fig. 1 of the Enclosure. As indicated, the experimental data agree with the results calculated from the formula

$$\Delta E = \frac{a^2 m^* e^4}{2 \Lambda^2 (\epsilon^*)^2}$$

Orig. art. has: 2 figures, 1 formula and 1 table.

ASSOCIATION: Institut fiziki tverdogo tela i poluprovodnikov AN BSSR (Institute of solid state and semiconductor Physics, AN BSSR)

SUBMITTED: 23Jan64

ENCL: 01

SUB CODE: SS, EM

NO REF SOV: 005

OTHER: 000

Card 2/3

ACCESSION NR: AP4042724

Enclosure 01

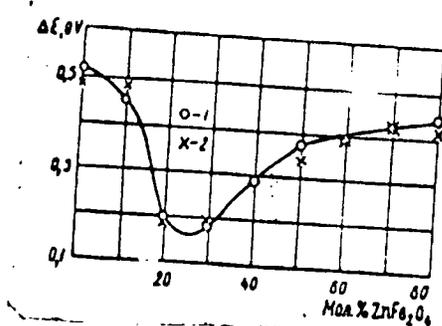


Fig. 1. Relationship between the activation energy of nickel-manganese-zinc ferrites and their zinc ferrite content: 1 - experimental data; 2 - values of ΔE calculated from the formula. Abscissa = mol. % $ZnFe_2O_4$.

Card 3/3

OLV/111-13-2-13/77

3(1)
AUTHOR: Ivanikin, A S., Senior Technician
TITLE: restoration of the Capacity of Storage Batteries
(Vosstanovleniye yomakstokkumulyi rnyki batarey)
PERIODICAL: Vestnik svyazi, 1957, Nr 2, p 23 USSR
ABSTRACT: The author relates that following replacement of separators, the capacity of S-8 batteries in use at the station normally low - fell to 1/3 of the nominal capacity. The S-8 batteries at the station were treated according to the method of B. A. Piontkovskiy ("Vestnik svyazi", 1957, Nr 2), and thus restored to normal. The S-8s were treated as follows. They were first given a normal charge, followed by a 3-day period of alternate 1-hour slow charges, and 1-hour "rests" between 6 pm and 3 am. Throughout this period they received a total of 18 AH. A control discharge showed that following this treatment they had regained their nominal capacity. The author suggests that both indicated methods may be helpful to workers in other ampli-
Card 1/2

Restoration of the Capacity of Storage Batteries

NOV/11-53-1-18/27

Working stations in restoring "sick" batteries to normal,
especially after replacement of separators

ASSOCIATION: Usilitel'nyy punkt (Amplifying Station)

Card 2/2

DANILKIN, A.S., elektromekhanik

Use of transformer oil in S-1 and S-5 stationary storage batteries.
Vest. sviazi 21 no.12:24 D '61. (MIRA 14:12)
(Insulating oils) (Storage batteries)

DANILKIN, I.S., ZINOVYEV, L.P., PETUKHOV, V.A., RABINOVICH, M.S.

"Some Operational Problems with a 180 MeV Synchrotron," (Model of 10 GeV Synchrotron), paper presented at CERN Symposium, 1956, appearing in Nuclear Instruments, No. 1, pp. 21-30, 1957

AUTHORS: Danilkin, I. S., Kufinevna, V. G. 5124-10/1

TITLE: Resonance-Variations of the Appearance of Particles in Accelerators of Charged Particles. Resonansnyye vozrushcheniya sinkhrotronnakh klyuchnykh i kriticheskikh zaryazhennykh chastits].

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1970, Vol. 40, No. 10, pp. 1558-1570 (USSR)

ABSTRACT: It is the object of this investigation to determine the possible losses of particles in accelerators of the synchrotron-type in the presence of resonance excitation of the radial-phase-oscillations. In a particular case it is determined which of the characteristics of the radial-phase-motion are necessary for loss. The excitation of the particles in the presence of an external resonant excitation is investigated. Since on the basis of the knowledge concerning the character of the resonance variation is deepened and the possibility of giving an answer to the question of the appearance of particle variations at least in the case of resonance excitation is solution (as long as the limits of the resonance excitation

Card 1/1

Resonance-Variations of the Synchrotron Oscillations in Accelerators of Charged Particles

oscillations is not very large as applicable. In order to be able to use the obtained results for the estimation of the losses of particles, the relation between the amplitude and the phase-deviations during the resonance oscillations is determined. A comparison is made between the theory and the experiments made with the synchrotron for 10 billion eV. There are 4 figures and 1 reference, all of them in Russian.

ASSOCIATION: Institute for Physics, USSR Academy of Sciences (Fizicheskii Institut im. P. N. Lebedev, USSR)

SUBMITTED: January 28, 1957

AVAILABLE: Library of Congress

1. Particle accelerators-Equipment
2. Synchrotrons-Particle losses-Estimation
3. Synchrotrons-Effects of resonance variations

Card 2/2

DANILKIN, I. S.

Lebedev

1956. CONFERENCE ON THE PHYSICS OF HIGH-ENERGY
PARTICLES, *E.M. Lofkin, A.N. Burtaev, I.S. Danilkin,
A.N. Lebedev and I.B. Ozerov.*
Uspekhi Fiz. Nauk, Vol. 63, No. 1, 103-24 (1957). In Russian.
Report of the proceedings (Moscow, 14-22 May, 1956) with
full account of the discussions. *C.R.S. Mandara*

5-1-Rmk

*Rmk
any*

AUTHORS: Danilkin, I. S., P. S. ... V. Y. ... 89 4-6-1/30

TITLE: The Investigation of the Transitional Mode of Operation of a Synchrotron With Indirect Betatron Acceleration (Issledovaniye perexodnogo rezhima reboya slyktrona s betatronnym nachal'nyim rezhimom uskoryeniya)

PERIODICAL: Atomnaya energiya 1958, Vol. 4, No. 6, pp. 507-509 (USSR)

ABSTRACT: It was shown by experimental investigations and theoretical calculations that the theory of a transitional mode of operation for synchrotrons using indirect betatron acceleration is applicable to the case of an adiabatically slow adjustment of the accelerating field. This is true especially in the case of the 250 MeV synchrotron of the FIAN SSSR (Physics Institute, AS USSR). Adiabatic connection of the accelerating field is described by the expression $(\dot{\varphi}_0) \ll \sqrt{2kV}$. The theory employed also makes it possible to develop a method of indirect investigation of the operation of the betatron. Furthermore, it was possible to calculate a number of characteristic functions ($\psi(F, \Delta R)$) which govern the oscillations appeared by the betatron beam. The energy distribution of the electrons was determined experimentally.

Card 1/2

The Investigation of the Transitional Mode of Operation of a Synchrotron With Initial Bunched Acceleration

1989 4-5 1/30

It is pointed out that it is possible to utilize the dependence of the intensity of the accelerating particles on the amplitude of the accelerating voltage for the purpose of determining the voltage amplitude at the end of the orbit. The synchrotron was operated in the following manner for experimental purposes: Final energy of the beam: $E_p = 250$ MeV, radius of the stable orbit: $R_p = 82.5$ m, maximum filament length for the stable orbit: $H_m = 10.550$ Oe, frequency of the current in the magnets: $f = 50$ Hz; maximum energy in beta-beam operation: $E_p = 4$ MeV, feed energy in beta-beam operation: $E_p = 60 - 70$ KEV, time necessary for the adjustment of the acceleration: $t_{adj} \approx 10 \mu s$. There are 6 figures, 2 tables and 2 references, 3 of which are Soviet.

SUBMITTED: September 2, 1955

Card 2/2

57-2-23/32

The Capture of Particles in a Synchrotronic Regime of Acceleration

the transition method of operation. In the first stage the smallness of the current intensities and the high energy of the particles injected into the acceleration-chamber of the synchrotron represent an important moment which permits to disregard all collective interactions between the particles. It is assumed that under a normal method of operation of the accelerator such injection conditions exist that vertical vibrations of the particles are few and that a collision with the horizontal chamber-walls during capture does not occur. A reduced variant for the calculation of the characteristics of the first stage is worked out. Although these reductions are attained at the expense of a considerable decrease in the accuracy of calculation, the suggested method (reference 2) nevertheless gives the possibility of taking into account in a qualitatively correct manner the dependence of η_1 and $\psi(A)$ (coefficient of capture in the first stage and the function of the distribution of free vibrations at the end of the first stage according to the amplitudes) on the different parameters of the accelerator and thus correctly to select their optimum values and tolerances. - In the calculation of the capture of particles in the transition method of operation (second stage) it is shown that all these particles are

Card 2/4

57-2-23/38

The Capture of Particles in a Synchrotron as a Function of Acceleration
of Acceleration

captured here these initial conditions are represented by the inner points of the domain of stability (limited by the resonance condition $\eta = 1$), the approximate value of the coefficient of capture in the second stage η and of the coefficient of capture $\eta = \eta_1 + \eta_2$ is calculated. It is shown that the assumption that the injected particle beam is monoenergetic is unessential. The methods of calculation given here were employed in the apparatus of the Institute for Physics AN USSR (erected together with the Scientific Research Institute for Electrophysical Apparatus AEP USSR and the Laboratory for Radio-Engineering AN USSR as a part of the 10 billion eV - synchrotron). The fundamental parameters of this apparatus are given. The peculiarity of the test apparatus was an essential dependence of the magnetic field in the torus on the radius. The comparison of the theoretical and experimental data for the first stage showed a sufficient accuracy of the methods of calculation given here. Such a comparison for the second stage showed a good agreement except of $\eta(\Phi)$. The method given here permits to perform the calculations with an accuracy up to the order

Carl 5/4

1956-11/1
The Capture of Particles in a Synchrotron Resonance of Acceleration
of magnitude of $30 \pm 40\%$ which is entirely sufficient for
the projecting of an accelerator. There are 6 figures, and
3 references, all of which are Slavic.

ASSOCIATION: Institute of Physics AN BSSR (Inst. P. N. Lebedev, Moscow
(Vilicheskiy Institut AN BSSR (In. P. N. Lebedeva, Moscow)

SUBMITTED: August 7, 1956

AVAILABLE: Library of Congress

1. Particles--Capture--Theory

Card 4, 4

DANILKIN, I. S., Candidate Phys-Math Sci (diss) -- "Special conditions in the operation of cyclic resonance accelerators". Moscow, 1959. 7 pp (Acad Sci USSR, Phys Inst im P. N. Lebedev), 150 copies (KL, No 24, 1959, 125)

PHASE I BOOK EXPLOITATION

807/5425

10

Fedorov, N.D., Candidate of Technical Sciences, Compiler

Kratkiy spravochnik inzhenera-fizika: Yadernaya fizika. Atomnaya fizika
(Concise Handbook for the Engineering Physicist: Nuclear Physics. Atomic
Physics) Moscow, Atomizdat, 1961. 507 p. 28,000 copies printed.

Ed.: A.F. Alyab'yev; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This reference book is intended for engineers and physicists working
in the field of atomic and nuclear physics.

COVERAGE: The first seven parts of the book contain the most necessary reference
material on atomic and nuclear physics. The remaining parts present information
and data from other related fields. The last part gives the information on
systems of units compiled from the new GOST specifications, physical constants,
and some mathematical data. No personalities are mentioned. References
accompany each part of the book.

Card 3/17

Concise Handbook (Cont.)

SOV/5425

VIII. Methods of Investigating Plasma (Determination of Density and Electron and Ion Temperatures) 232
1. The spectroscopic method. 2. The microwave method. 3. Probe measurements in a plasma in the absence of a magnetic field

Bibliography 235

PART SEVEN. ACCELERATORS OF CHARGED PARTICLES
(I. S. DANILKIN AND B. N. YABLOKOV)

Introduction 236

I. Classification of Accelerators 242

II. Stability of Particle Motion in Cyclic Accelerators 243
1. Orbital stability. 2. Phase stability in cyclic resonance accelerators (auto-phasing).

III. Characteristics of Certain Types of Accelerators 276
1. Electrostatic accelerators. 2. The betatron. 3. The cyclotron.
4. The phasotron (the synchrocyclotron) 5. The synchrotron
6. The synchrophasotron 7. Linear resonance accelerators

Card 8/13

ACCESSION NR: AP4042920

S/0057/64/034/008/1365/1373

AUTHOR: Danilkin, I.S.; Tsy* tovich, V.N.

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.8, 1964, 1365-1373

ARTICLE TAGS: plasma, plasma oscillation, noise, fast particle

ABSTRACT: The authors discuss the effect of random oscillations of a plasma (noise) on the average motion of a fast charged particle. The average rate of change of the particle momentum is given by the velocity divergence of the tensor

$$\Pi_{ij} = \frac{\hbar^2}{m} \int k_i k_j w_p N_{\omega, k} d\omega dk,$$

where $N_{\omega, k}$ is the quantum density of the noise field and $w_p(\omega, k)$ is the transition probability for the particle from a state of momentum p to $p - \hbar k$. w_p is given by

$$w_p = \frac{e^2}{\pi^2 \hbar} \frac{\delta(\omega - kv)}{k^2} \operatorname{Im} \frac{1}{\epsilon^l(\omega, k)}.$$

where v is the velocity of the particle and ϵ^l is the longitudinal part of the dielectric tensor. The effects of the acoustic and the high frequency plasma wave components of the noise field are discussed separately in the absence of an external field. An isotropic noise field has no average effect, but it is found that an

1/3

ACCESSION NR: AP4042920

anisotropic field can either accelerate the charged particle or decelerate it. Noise fields with cylindrical symmetry are treated in some detail, and it is found that waves propagating preferentially parallel to the motion of the particle tend to decelerate it, while waves propagating mainly transversely to the particle motion accelerate it. The effect of noise on the acquisition of energy by a charged particle from an external electric field is discussed in terms of the theory developed by V.D.Shapiro [no reference given]. According to this theory the velocity of the particle is limited by the decelerating action of waves that its own motion generates. It is found that the effect of the noise field is much less than that of the decelerating waves generated by the particle unless the noise field is so intense that neither the present theory nor that of Shapiro is valid. The effect of the noise field on the characteristic time required for the particle to generate and interact with the decelerating wave is found to be particularly weak, and it is suggested that large currents of "runaway" particles may be obtainable in a spatially limited plasma in which the free flight time of the electrons is smaller than this characteristic time. Orig.art. has: 52 formulas.

2/3

ACCESSION NR: AP4042920

ASSOCIATION: Fizicheskiy institut im. I.P.Lebedeva AN SSSR, Moscow (Physics Institute, AN SSSR)

SUBMITTED: 20Nov63

ENCL: 00

SUB CODE: ME

MR REF SOV: 004

OTHER: 000

3/3

L 49249-65 EWT(1)/EPF(n)-2/EWG(m)/EPA(w)-2 Pz-6/Po-4/Pab-10/P1-4 IJP(c) WW/AT

ACCESSION NR: AP5019805

UR/0057/65/035/004/0667/0676

AUTHOR: Danilkin, I.S.

46
43
B

TITLE: Conversion of two transverse waves into a longitudinal wave in a plasma without collisions

21

SOURCE: Zhurnal tekhnicheskoy fiziki, vo. 35, no. 4, 1965, 667-676

TOPIC TAGS: plasma electromagnetic wave, plasma wave, nonlinear plasma, nonlinear kinetic equation

ABSTRACT: The author shows that two transverse waves propagating in a plasma can give rise to a longitudinal wave with a frequency equal to the difference between the frequencies of the transverse waves, and that the conversion is appreciable provided the difference frequency is close to the electron Langmuir frequency. Collisions and the motion of the ions are neglected; the system is accordingly described by the kinetic equation for the electron distribution function and Maxwell's equations for the fields. These equations are simplified by retaining in the distribution function only terms that are linear or quadratic with respect to the electric field strength. A system of coupled amplitude equations is derived for the amplitudes of two plane transverse waves and a longitudinal wave at

Card 1/2

L 49249-65

ACCESSION #: AP6010605

3

the difference frequency. This system is identical in form with those derived elsewhere by others (R.M.Khokhlov and S.A.Akhmanov, Problemy nelineynoy optiki, Izd. INI, M. 1964; J.A.Armstrong et al., Phys. Rev., 127, 1918, 1962). The conversion from transverse to longitudinal waves proceeds most rapidly when the electric vectors of the two transverse waves are parallel; when the electric vectors are perpendicular there is no conversion in the present approximation. Approximate formulas are derived for the characteristic length for the conversion of the transverse to longitudinal waves. It is suggested that the conversion process investigated here may be useful for exciting longitudinal waves in plasma systems. "The author expresses his gratitude to V.N.Tsyтович and M.D.Bayser for many fruitful discussions of the problems treated in this paper." Orig. art. has: 46 formulas and 2 figures.

ASSOCIATION: Fizicheskiy institut im. P.N.Lebedeva, Moscow (Physics Institute)

SUBMITTED: 21May64

ENCL: 00

SUB CODE: ME

NR REF SU: 004

OTHER: 001

Card 1/2

ACC NR: AT6033041

SOURCE CODE: UR/2504/65/032/000/0112/0129

AUTHOR: Danilkin, I. S.; Kovrizhnykh, L. M.; Rayzer, M. D.; Tsytovich, V. N.

ORG: none

TITLE: Nonlinear effect in a plasma without collisions and possible prospects for their use

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 32, 1966. Fizika plazmy (Plasma physics), 112-129

TOPIC TAGS: nonlinear effect, plasma dynamics, plasma electromagnetic wave

ABSTRACT: The present article is of the review type (35 literature references) and the authors state that it is primarily based on the theoretical results of a series of previously published articles. After an extended mathematical introduction, the authors consider the subject of the induced dissipation of transverse waves and their transformation into longitudinal waves. The next two subsections deal with processes of disintegration and merging of waves in a plasma, and processes of three-plasma dissipation. The next main heading is the nonlinear transformation of transverse electromagnetic waves into longitudinal plasma waves. Following this is a treatment of the acceleration of clusters in a plasma using electromagnetic waves. The final section of the article concerns the possibility of the generation of transverse

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electromagnetic waves at the expense of nonlinear effects accompanying the passage of a beam through a plasma. "The questions treated here were brought to our attention by M. S. Rabinovich. An active part in working out questions in the theory of nonlinear effects was taken by A. K. Gaylitis. For many discussions touching on the problem, the authors are very grateful to Academician V. I. Veksler, M. S. Rabinovich, and Ya. B. Faynberg." Orig. art. has: 41 formulas.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 038/ OTH REF: 001

Card 2/2

ACC NR: AT6033043

SOURCE CODE: UR/2504/05/032/000/0165/0172

AUTHOR: Danilkin, I. S.; Rayzer, M. D.; Tsytovich, V. N.

ORG: none

TITLE: Acceleration of particles with interaction between high frequency fields and a plasma

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 32, 1966. Fizika plazmy (Plasma physics), 165-172

TOPIC TAGS: particle acceleration, plasma magnetic field, traveling wave interaction

ABSTRACT: The present article analyzes several mechanisms for the acceleration of the individual particles in a plasma acted upon by a high frequency field. It considers the conditions under which data can be taken on the mechanism of acceleration, and offers an evaluation of the mean values of the energy which can be collected by the ions and the electrons. The article starts with a mathematical development of the problem of acceleration brought about by waves with a fixed phase in a weak high frequency field, and then goes on to a consideration of the same problem with waves of random phase in weak high frequency fields. It concludes with the derivation of mathematical expressions for the acceleration of particles in a strong high frequency field. "In conclusion the authors thank M. S. Rabinovich for discussion of the problem." Orig. art. has: 25 formulas.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 002

Card 1/1

I 33413-66 EMT(1)/ETC(f) IIP(c) GG/AT
ACC NR: APG015302 (A, N) SOURCE CODE: UR/0057/66/036/005/0813/0817

AUTHOR: Danilkin, I. S.

ORG: Physics Institute im. P.N.Lebodev, Moscow (Fizicheskly institut)

TITLE: Conversion of a transverse electromagnetic wave to ionic sound oscillations of a plasma with the formation of an intermediate electronic Langmuir wave

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 5, 1966, 813-817

TOPIC TAGS: plasma electromagnetic wave, nonlinear effect, nonlinear differential equation, plasma wave, sound wave, longitudinal wave

ABSTRACT: The technique of nonlinear optics (J.A.Armstrong, N.Bloembergen, J.Dusing and P.S.Pershan, Phys. Rev., 127, 1918, 1962) is employed to discuss the two-stage conversion of transverse electromagnetic waves into ionic sound via intermediate longitudinal electronic waves in an infinite isotropic plasma in which the electron temperature considerably exceeds the ion temperature. Previous work on the direct conversion of transverse and Langmuir waves to ionic sound (S.Akhmanov and R.Khokhlov, Problemy nelineynoy optiki, VINITI, M., 1965) and of transverse to Langmuir waves (I.S.Danilkin, ZhTF, 35, 435, 1965) indicates that the two-stage process will predominate for a wide range of frequencies and amplitudes of the interacting waves. In the present paper the nonlinear optics equations for the simultaneous interaction of

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all three types of waves are discussed. A number of integrals of these equations are found and the solution is discussed for the case when transverse waves together with a small background of ionic sound are initially present. It is found that the initial presence of ionic sound considerably hinders the two-stage conversion of transverse waves to ionic sound by transforming Langmuir waves of the resonant frequency into Langmuir waves of other frequencies. The author thanks V.N.Tsytovich, M.D.Rayzer, and V.A.Liperovskiy for valuable discussions. Orig. art. has: 19 formulas.

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OTH REF: 001

Card 2/2

DANILKIN, N.P.; KOCHENOVA, N.A.; SVECHNIKOV, A.M.; CHAVDAROV, S.S.;
YAROSHEVA, A.I.

State of the ionosphere over Rostov-on-Don during the total
solar eclipse of Feb. 15, 1961. Geomag. i aer. l no.4:612-615
Jl-Ag '61. (MIRA 14:12)

1. Rostovskiy-na-Domu gosudarstvennyy universitet, kafedra
eksperimental'noy i teoreticheskoy fiziki.
(Ionosphere)
(Eclipses, Solar--1961)